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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/806,220	05/14/2001	Roger Sandstrom	98003-UTAP	4894

7590

07/12/2002

Mark P Stone
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EXAMINER

HAWKINS GAY, JENNIFER M

ART UNIT

PAPER NUMBER

3672

DATE MAILED: 07/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/806,220

Applicant(s)

SANDSTROM, ROGER

Examiner

Jennifer H Gay

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Information Disclosure Statement

1. The Information Disclosure Statement filed on 22 June 2001 has been considered by the examiner, however, the information disclosed in the IDS, i.e. the co-pending application information, should be located in the specification (see 37 CFR 1.78 and MPEP 201.11) and not included in an IDS. Correction of the specification is required.

Specification

2. The disclosure is objected to because of the following informalities: on page 1, in the *Brief Description of the Drawings*, "fig 1" should be changed to --Fig 1--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Jansson et al. (US 4,760,887).

Jansson et al. discloses a threaded connector for a percussion drilling assembly. The connector includes the following features:

- A male thread (15) located on a first drill string element (10 and 11).
- A female thread (13) located on a second drill string element (12).
- The first and second drill string elements each include respective impact surfaces (16 and 18) that are arranged to abut each other.

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- The threads are characterized in that they are conical (see Figures 3 and 4) and the crests of the threads have a radius of curvature that is greater than 30% of the pitch of the threads (43.3%, see col. 2, lines 10-20 and col. 3, lines 25-35).

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Larsson (US 4,861,209).

Larsson discloses a threaded connector for a percussion drilling assembly. The connector includes the following features:

- A male thread located on a first drill string element (see Abstract).
- A female thread located on a second drill string element (see Abstract).
- The first and second drill string elements each include respective impact surfaces (see Abstract and col. 2, line 58-col. 3, line 16).
- The threads are characterized in that they are conical (see Figures 3a and 3b) and the crests of the threads have a radius of curvature that is greater than 30% of the pitch of the threads (37.7%, see col. 3, lines 17-23).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 1 is rejected under 35 U.S.C. 102(b) as anticipated by Jansson et al. (US 4,760,887) as stated above or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jansson et al. (US 4,760,887) in view of Eklof et al. (US 4,687,368).

As stated above in paragraph 4, the examiner considers claim 1 to be anticipated by Jansson et al., however, if applicant does not agree with this rejection, claim 1 is considered obvious over Jansson et al. (US 4,760,887) in view of Eklof et al. (US 4,687,368) as follows:

Jansson et al. discloses all of the limitations of the above claims except for the first and second drill string elements including impact surfaces that are arranged to abut each other.

As seen in Figure 1 and 3, Eklof et al. teaches a threaded connection for a percussion rock drill. The threaded connection includes conical male threads (13) located on a first drill string element (10) and conical female threads (12) located on a second drill string element (11). The first element includes a first impact surface (16) and the second element includes a second impact surface (15).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have included the first and second impact surfaces taught by Eklof et al. on the threaded connector of Jansson et al. in order to have provided a means for limiting the degree to which the two elements were threaded together, i.e. to have ensured that the threads of the two elements were completely in contact.

8. Claim 1 is rejected under 35 U.S.C. 102(b) as anticipated by Larsson (US 4,861,209) as stated above or, in the alternative, under 35 U.S.C. 103(a) as obvious over Larsson (US 4,861,209) in view of Eklof et al. (US 4,687,368).

As stated above in paragraph 5, the examiner considers claim 1 to be anticipated by Larsson, however, if applicant does not agree with this rejection, claim 1 is considered obvious over Larsson (US 4,861,209) in view of Eklof et al. (US 4,687,368) as follows:

Larsson discloses all of the limitations of the above claims except for the first and second drill string elements including impact surfaces that are arranged to abut each other.

As seen in Figure 1 and 3, Eklof et al. teaches a threaded connection for a percussion rock drill. The threaded connection includes conical male threads (13) located on a first drill string element (10) and conical female threads (12) located on a second drill string element (11). The first element includes a first impact surface (16) and the second element includes a second impact surface (15).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have included the first and second impact surfaces taught by Eklof et al. on the threaded connector of Larsson in order to have provided a means for limiting the degree to

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which the two elements were threaded together, i.e. to have ensured that the threads of the two elements were completely in contact.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


The remaining references made of record disclose various thread connectors for drilling assemblies.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer H Gay whose telephone number is (703) 308-2881. The examiner can normally be reached on Monday-Friday, 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on (703) 308-2151. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7687 for regular communications and (703) 305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

JHG:JH
July 8, 2002


DAVID BAGNELL
SUPERVISORY PATENT EXAMINER
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